

[[“System for driving columns of a liquid crystal display.”]]

ABSTRACT

[[* * * * *]]

A [[The present invention refers to a]] system for driving columns of a liquid crystal display includes [[comprising a]] logic circuitry [[(10)]] operating in a supply path between a first [[(VDD)]] and a second [[(VSS)]] supply voltage in which the first supply voltage is [[(VDD)]] higher than the second supply voltage [[(VSS)]].
5 The logic circuitry [[(10)]] is capable of generating [[starting from the]] first logic signals [[(LOW_FRAME, WHITE_PIX) in input]] and second logic signals [[(CP, CN, CP_N, CN_N) in output]] whose value is equal to the first [[(VDD)]] or second [[(VSS)]] supply voltage. The system includes [[device comprises]] two level shifters [[elevator devices (11, 12)]] coupled to the logic circuitry [[(10)]] and operating in a supply path between a third supply voltage [[(VLCD)]] greater than the first supply voltage [[(VDD)]] and the second supply voltage [[(VSS)]]; the level shifters
10 [[elevator devices (11, 12)]] are capable of raising the value of the second logic signals [[(CP, CN, CP_N, CN_N)]]]. The system [[device]] also includes [[comprises]] a first [[(T11-T12)]] and a second [[(T13-T14)]] pair of transistors having [[shaving]] different supply paths [[(VLCD-VA, VB-VSS)]] and having an output terminal [[(OUT)]] in common; the first [[(T11-T12)]] and the second [[(T13-T14)]] pair of transistors are coupled [[connected]] to the level shifters [[elevator devices (11, 12) so as]] to determine the drive signal of a column. The system
15 [[device comprises]] includes turnoff circuitry [[(15)]] operating in a supply path between the third [[(VLCD)]] and the second supply voltage [[(VSS)]] and coupled to the two level shifters [[elevator devices (11, 12)]]]. The turnoff circuitry [[(15)]] is capable of keeping one of the two pairs of transistors [[(T11-T12, T13-T14)]] in a turnoff state in the period of time of a frame when the other of the two pairs of transistors [[(T11-T12, T13-T14)]] is [[in]] operative [[conditions. (Fig. 5)]]].
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CORRECTED VERSION

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
8 January 2004 (08.01.2004)

PCT

(10) International Publication Number
WO 2004/003882 A1

(51) International Patent Classification⁷: **G09G 3/36**

(21) International Application Number: **PCT/EP2003/006638**

(22) International Filing Date: 23 June 2003 (23.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
MI2002A001424 27 June 2002 (27.06.2002) IT

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(81) Designated States (national): CN, IN, JP, US.

(84) Designated States (regional): European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Declarations under Rule 4.17:

- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for the following designation US
- of inventorship (Rule 4.17(iv)) for US only

Published:

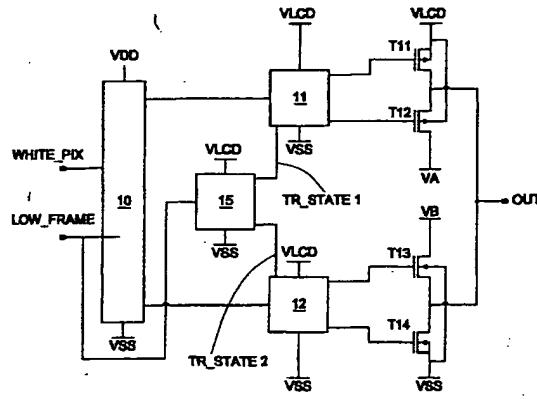
- with international search report

(48) Date of publication of this corrected version:
3 June 2004

(15) Information about Correction:
see PCT Gazette No. 23/2004 of 3 June 2004, Section II

[Continued on next page]

(54) Title: SYSTEM FOR DRIVING COLUMNS OF A LIQUID CRYSTAL DISPLAY



(57) Abstract: The present invention refers to a system for driving columns of a liquid crystal display comprising a logic circuitry (10) operating in a supply path between a first (VDD) and a second (VSS) supply voltage in which the first supply voltage is (VDD) higher than the second supply voltage (VSS). The logic circuitry (10) is capable of generating starting from the first logic signals (LOW_FRAME, WHITE_PIX) in input second logic signals (CP, CN, CP_N, CN_N) in output whose value is equal to the first (VDD) or second (VSS) supply voltage. The device comprises two elevator devices (11, 12) coupled to the logic circuitry (10) and operating in a supply path between a third supply voltage (VLCD) greater than the first supply voltage (VDD) and the second supply voltage (VSS); the elevator devices (11, 12) are capable of raising the value of the second logic signals (CP, CN, CP_N, CN_N). The device also comprises a first (T11-T12) and a second (T13-T14) pair of transistors sharing different supply paths (VLCD-VA, VB-VSS) and having an output terminal (OUT) in common; the first (T11-T12) and the second (T13-T14) pair of transistors are connected to the elevator devices (11, 12) so as to determine the drive signal of a column. The device comprises turnoff circuitry (15) operating in a supply path between the third (VLCD) and the second supply voltage (VSS) and coupled to the two elevator devices (11, 12). The circuitry (15) is capable of keeping one of the two pairs of transistors (T11-T12, T13-T14) in a turnoff state in the period of time of a frame when the other of the two pairs of transistors (T11-T12, T13-T14) is in operative conditions.

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